

Remarks

Claims 1-15 and 24-27 are pending. No amendments are presented with this Response.

Applicants respectfully request reconsideration and allowance of the application in view of the following remarks.

Claim Rejections - 35 U.S.C. §102

Claims 1, 3-6, 8-13, 15, and 24-27 stand rejected under 35 U.S.C. §102 (e) as being anticipated by Kitano et al. (U.S. Pat. No. 6,383,948).

Applicants respectfully traverse this rejection because the teachings of Kitano et al. do not relate to, e.g., a spin-coating system.

Each independent claim (claims 1, 9, and 24) recites, *inter alia*, a spin-coating system.

The teachings of Kitano et al. do not relate to a spin-coating system, but instead relate to drawing-type coating systems described by Kitano et al., e.g., as follows:

As a method in place of the aforementioned spin coating method, the inventors of this invention have reviewed the following method (hereinafter referred to as ‘one-stroke drawing type’)... (See Kitano et al. at col. 2, line 10 to col. 3, line 9, especially col. 2, lines 10-13) (Underlining added).

The specific drawing-type coating systems developed by Kitano et al. are described in connection with, e.g., FIGS. 3, 14, 19, and 21. For example, the operation of the apparatus in FIG. 19 for coating a resist liquid is described in detail by Kitano et al. from column 18, line 52 to column 22, line 51. In brief, while wafer W is in a stationary state, nozzle 102 moves from one end of wafer W to the other end in the x-direction discharging a coating liquid onto wafer W (see Kitano et al. at col. 18, line 66 to col. 19, line 4). Then wafer W moves in the y-direction by a predetermined amount and nozzle 102 then returns to the other end of wafer W while discharging the coating liquid (see Kitano et al. at col. 19, lines 4-17). This “one-stroke drawing” method is illustrated in FIG. 21 (see Kitano et al. at col. 19, lines 17-19). After the liquid is applied to the entire circuit forming area of wafer W, ultrasound is applied to wafer W to flatten the liquid

film and help form a uniform film (see Kitano et al. at col. 19, lines 26-30). In contrast, Kitano et al. describe an exemplary prior art spin-coating system in their Background section in connection with FIG. 33 (see Kitano et al. at col. 1, line 19 to col. 2, line 9). In that system, a resist liquid 13 is dispensed onto the central portion of wafer W and rotated at a high speed (e.g., 200 to 4000 rpm) to diffuse the resist liquid over the surface of wafer W by centrifugal force, thereby forming a uniform film (see Kitano et al. at col. 1, lines 25-37).

Moreover, Kitano et al. expressly contrast their systems to spin-coating systems and highlight certain pitfalls of spin-coating systems as follows:

According to the aforementioned invention, it is possible to obtain the coating film with high uniformity of the inner surface of the film thickness as compared with the spin coating method. Moreover, there is substantially no waste of coating liquid, and the yield of coating liquid is improved (see Kitano et al. at col. 5, lines 33-36) (underlining added)

...

According to the aforementioned embodiment, the resist liquid is applied to the wafer W linearly in the one-stroke drawing manner by the coating liquid nozzle. This makes it possible to obtain the coating film with high uniformity of the inner surface of the film thickness without generating air turbulence at the outer peripheral section of the wafer W unlike the spin coating method. Furthermore, since the resist liquid is not splashed to the outside of wafer W, there is an advantage in which the yield of the resist liquid is high (see Kitano et al. at col. 22, lines 25-33) (underlining added).

Accordingly, it is respectfully requested that the rejection of claims 1, 3-6, 8-13, 15, and 24-27 under 35 U.S.C. §102 (e) as being anticipated by Kitano et al. be withdrawn.

Claim Rejections - 35 U.S.C. §103

Claims 2, 7, and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kitano et al. in view of Mekias (U.S. Pub. No. 2003/0075555).

Applicants respectfully traverse this rejection because a *prima facie* case of obviousness has not been established.

According to *In re Gurley*:

[I]n general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant ... a reference that 'teaches away' can not serve to create a *prima facie* case of obviousness. We agree that this is a useful general rule. (See *In re Gurley*, 31 USPQ2d 1130, 1131, 1132 (Fed. Cir. 1994)).

As discussed above with respect to independent claims 1 and 9, each dependent claim 2, 7, and 14 includes the feature of, *inter alia*, a spin-coating system.

As also discussed above, the teachings of the primary reference, Kitano et al., do not relate to spin-coating systems. Moreover, as discussed above, Kitano et al. expressly contrast their system to spin-coating systems and inform one of skill in the art of certain pitfalls with spin-coating, thereby teaching away from a spin-coating system. Such a negative teaching would direct one of skill in the art away from the spin-coating system path taken by Applicants.


Accordingly, it is respectfully submitted that the Office Action does not support the rejection of claims 2, 7, and 14.

It is respectfully requested that the rejection of claims 2, 7, and 14 under 35 U.S.C. §103(a) as being unpatentable over Kitano et al. in view of Mekias be withdrawn.

The Examiner is invited to contact the undersigned, at the Examiner's convenience, should the Examiner have any questions regarding this communication or the present patent application.

Respectfully Submitted,

By:



Paul John Parins, Reg. No. 54,358

Customer Number 33072

Phone: 651-275-9831

Facsimile: 651-351-2954

Dated: June 16, 2005

PJP#17806